

**Ch 14 Questions: Heat of Fusion and Heat of Vaporization**

	Specific Heat (Cp)	Heat of Fusion ( $\Delta H_{\text{fus}}$ )	Heat of Vaporization ( $\Delta H_{\text{vap}}$ )
Water (H <sub>2</sub> O)	4.18 J/g °C	6.00 kJ/mol	40.6 kJ/mol
Ethanol (C <sub>2</sub> H <sub>5</sub> OH)	2.44 J/g °C	5.02 kJ/mol	38.6 kJ/mol
Mercury (Hg)	0.14 J/g °C	2.29 kJ/mol	59.1 kJ/mol

- 1) How much heat is required to increase the temperature of 20 grams of water by 26 °C?
- 2) How much heat is required to melt 2.5 moles of ice?
- 3) How much heat is transferred when 57 grams of mercury cools from 76 °C to 18 °C?
- 4) If you have 27 grams of 100 °C liquid water, how much heat is required to turn it into water vapor?
- 5) How much energy is transferred when 70 grams of ethanol is heated from 21 °C to 68 °C?
- 6) How much heat is transferred when 400 grams of mercury (Hg) is vaporized?
- 7) How much heat is transferred when 400 grams of mercury is cooled from 280 °C to 20 °C?

C. Momentum

Assessment includes daily assignments of questions and problems from the

ethanol condense from gas to liquid?

- 9) How much heat is transferred when 100 grams of ethanol condense from gas to liquid?

3<sup>rd</sup> Quarter: Volume of liquid?

- 10) How much heat is transferred when 100 grams of ethanol condense from gas to liquid?